IN THE CLAIMS:

1. (Currently Amended) A method for controlling calibration timing for a metrology tool, comprising:

(a) calibrating a metrology tool using a first parameter measured on at least one reference substrate;

(b) measuring a second parameter on at least one non-reference substrate using the metrology tool;

(c) ~~intermittently~~ measuring [[a]] the first parameter of at least one film on at least one reference substrate using [[a]] the metrology tool;

(d) determining when a first parameter measurement drift with respect to the calibrated first parameter measurement exceeds a pre-determined value; and

(e) calibrating the metrology tool in response to the first parameter measurement drift exceeding the predetermined value.

2. (Original) The method of claim 1, wherein the first parameter is film thickness.

3. (Original) The method of claim 1, wherein the second parameter is a critical dimension.

4. (Original) The method of claim 1, wherein the first parameter is film thickness and the second parameter is a critical dimension.

5. (Original) The method of claim 3, wherein the calibrating begins prior to excessive drift occurring for the critical dimension measurements performed by the metrology tool.

6. (Original) The method of claim 1 wherein the metrology tool is an optical measuring tool.

7. (Original) The method of claim 1 wherein the non-reference substrates are product substrates.

8. (Previously Presented) The method of claim 1 wherein steps (a) and (c) further comprise:

averaging the results of a plurality of said first parameter measurements.

9. (Currently Amended) The method of claim 5 further [comprises] comprising performing the first parameter measurements on a plurality of substrates.

10. (Original) The method of claim 1 wherein step (c) is performed in accordance with a predefined schedule.

11. (Original) The method of claim 7, wherein the predefined schedule is a periodic time.

12. (Original) The method of claim 7, wherein the predefined schedule is defined by measuring a predefined number of non-reference substrates.

13. (Original) The method of claim 2 further comprising determining drift by subtracting the film calibrated thickness measurement from the thickness measurement of step (c).

14-17. (Cancelled)

18. (Previously Presented) The method of claim 13, wherein the metrology tool is an optical measuring tool.

19. (Previously Presented) The method of claim 13, wherein the non-reference substrates are product substrates.